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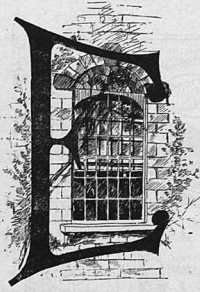
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THE DECORATOR AND FURNISHER.

CHINA AND PORCELAIN.

By N. S. S.



ENTIRELY unknown, comparatively, to most persons, we have in this country manufacturing establishments where are made some of the choicest specimens of the potters art, and the Trenton potteries are constantly turning out enormous quantities of really high class goods, so fine indeed that they are attracting attention that was formerly bestowed on foreign products altogether. The clay of which the finest ware is made is delivered at the pottery in large white lumps, not unlike chalk in appearance, but much less cohesive, breaking with the slightest pressure, and scattering a fine dust that will penetrate the closest woven fabric.

The clay is dissolved in large tubs with certain chemicals in a given amount of water. Large paddles are constantly revolving in this mixture, which is made very thin at first and is carefully strained and sifted to remove all particles of stone or sand that would interfere with the fineness and smoothness of the delicate ware. After being thoroughly ground and mixed in these tubs the liquid is drawn into tanks and under great pressure the water is forced out, leaving a mass of clay only, damp and of such consistency that it can be worked and kneaded like dough, through which process it is put by hand in the same manner as the kneading of bread. All of the air bubbles must be worked out, or the product will be full of blisters and uneven. No machinery has ever been invented that will take the place of muscular arms and hands, and in this primitive fashion all of the clay used for fine ware is prepared. Wires are used to cut off large slices of the dough, which are then thrown back again on the mass with great force, this operation being repeated until under the inspection of experts it is pronounced done.

A portion of the mass is then placed upon the table of a workman, who takes a lump sufficient for his purpose, places it upon a flat stone and strikes it a single blow with an implement that resembles a very broad faced potato masher. The result is a flat piece of dough that looks very much like the top crust to a chicken pie. This is placed over a mould, which has exactly the shape of the inside of the plate or dish that is to be made. The mold is turned rapidly around and the shaping is done almost precisely as an article is turned upon a lathe. When shaped the mold is set away to dry, the dish remaining in place during the process. While the utmost care must be taken in the turning or shaping of plates or saucers, the work is done quite rapidly. One man can turn out about seventy dozen plates per day if he is an expert. When sufficiently dry the plates are taken from the molds, trimmed of the little ragged clay that adheres to the edges, and smoothed with an implement somewhat like a knife. They are then glossed over, either with the wet hand or a bit of wet rag, all irregularities being removed in this way. After another drying process the pieces are put into large earthen trays, each dish resting on little earthenware frames or stills, so that they will keep in place and not come in contact with each other. A kind of silver sand is sifted over the dishes as they are put into the trays and they are ready to be set in the kilns. These trays are all of a size and are so placed that the second one makes a cover for the first. A band of clay is put between each tray, resting upon the edge of the lower one, so that the weight of the next presses it flatly down, making it air tight. In this way the immense kilns are filled, the trays making columns nearly or quite twenty feet high. The setting of the trays is a very nice piece of work, as much of the success of the firing depends upon its exactness.

When the kiln is full the door is closed and bricked up, every aperture between the bricks being carefully sealed with clay, so that no air can penetrate them. The furnaces are then filled with coal and the fires are lighted. For the perfect success of the firing it is necessary to maintain a very high as well as an absolutely steady temperature. When the firing process is deemed complete tests are made to prove the condition of the contents of the kiln. If the proof is satisfactory the fires are allowed to cool off gradually until it is safe to open the kiln and expose the contents to the air. So high is the temperature that is reached during the firing process that the bricks are often fused and rendered almost transparent, looking like blocks of muddy glass rather than the bricks they were. In busy seasons, when the kilns are in constant use, they are opened and the contents removed, or in technical phrase "drawn" as soon as it is safe to expose the articles to the air. So hot are they, that it is often impossible to handle them without holders, even after they are conveyed again to the workrooms. After this firing the china is called "biscuit" ware. In this state, while hard and

quite brittle, the articles are without glaze and slightly rough. They are thoroughly examined, the imperfect dishes are rejected and the perfect ones are carried to another department to be put into a bath, where they receive a coating that results in the production of the familiar glaze or shining finish seen on all china and table ware. After immersion in the bath, which is a white liquid, resembling rather thick, cold starch and which dries, or to all appearance evaporates, almost instantly, the ware is set away to dry until such time as it can be put into the kilns or ovens for the second baking, during which process it develops the glass-like exterior and becomes hard and ringing like a bell under a stroke. The glazing process is the only portion of the work that is considered detrimental to the health of the laborer. The liquid which produces the glaze has in it a large amount of lead, and as the hands and a portion of the arms of the operator must be constantly wet, and the air is to a certain extent charged with the vapor of it, the system after a time absorbs a sufficient amount to be seriously injurious to the operative. Men employed in this work get high wages and are often relieved for this reason.

After the second firing and when thoroughly cold the dishes are placed in piles and carefully examined by women and girls for that purpose and all irregularities are removed by striking them with an iron instrument shaped somewhat like a chisel. The plain ware is then sorted, counted and put away ready for the packing room when it is necessary to fill orders.

If the ware is to be decorated there are yet a number of complicated processes through which it must pass. The first step is the preparation of the designs, which are cut upon copper plates. Any one who has a card plate for visiting cards can understand this, as the design or pattern is cut in the same way as the letters of the name. A mineral paint is used in the same way that the ink is applied to the plate. Indeed, save that less care is taken to clean and polish the metal, the process is identical with ordinary plate printing. A sheet of rather thick tissue paper receives the designs, which are immediately passed over to the decorators. The patterns, of which there are many on a single sheet, are cut apart, leaving but a single figure on the fragment of paper, which is applied while still wet to the surface to be decorated. The pattern is carefully smoothed with rubbers, so that it shall adhere evenly to the dish, and the paper is removed, leaving the pattern perfectly transferred to the china surface. The work then goes through the operation technically known as "filling in," which means that the pattern is gone over and brightened by touches of color if more than the single tone is desired. In the transfer work only a single color is employed, and any addition must be made by hand with the brush. After this filling in process is complete, the ware is ready for the final firing, which is done in smaller kilns and is a less particular and complicated operation, as only a degree of heat sufficient merely to soften the paint and unite it with the glazing is required.

The description given is of the process of making plain round dishes, such as plates and saucers. If fanciful or square or any irregular form is desired there is a different fashion of handling. Square plates are made in a mold. A quantity of prepared clay in a crumbly state is put into a mold of suitable size and shape. The surplus of clay is scooped out with an implement made for the purpose, which leaves just enough material for the article to be made. A very powerful lever press is then brought to bear upon the mold and held for an instant, then raised and the form comes up holding a plate, perfect in shape and sufficiently firm to be easily handled. It needs only a little trimming off at the edges and a slight stroking and smoothing with a wet rag or the fingers to make it ready for the biscuit kiln. Square dishes, sauce plates, butter plates and cake plates are quite popular and are made and sold in enormous quantities. The fashioning of an ice pitcher is one of the most complicated of these processes. There are large molds made in two pieces and with locks that cause them to fit together perfectly. These are bound into one by strong straps that may be easily slipped off when occasion requires. The workman takes a lump of clay of suitable size and presses it upon the inside of the mold, which revolves rapidly. Long practice enables him to get the pitchers of almost exact thickness merely by the sense of touch. After the inside of the mold is covered it is laid upon a convenient shelf to harden slightly, while others are done. After a little time the mold is again taken down, the band slipped off and the body of the pitcher very carefully removed. It is now merely a vase, either round or oval. The handle has meanwhile been molded and finished, many small boys being employed on this part of the work. The half cover for the top is also ready and the workman joins them by wetting them and pressing them together. In this state the articles are extremely frail. The lightest cup cannot be lifted by the handle, and even when the articles are set away they are liable to crack in drying, which of course spoils them entirely.

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